

Mr. Gary Starks Indiana Department of Environmental Management Indiana Government Center North 100 North Senate Avenue Indianapolis, Indiana 46206-6015

March 29, 2010 RA/NPDES/IN

Subject

Exceedance of Daily Maximum Total Suspended Solids (TSS) Effluent Limitation NPDES Permit Numbers IN0000175 and INJ060801, Monitoring Station 031/031U ArcelorMittal Burns Harbor, LLC

Dear Mr. Starks:

In accordance with Part II. Section C(4) of Permit IN0000175, this is to provide a timely written report regarding an exceedance of the daily maximum concentration limitation for TSS that occurred at Monitoring Station 031/031U on March 24, 2010. This incident was reported to IDEM, within 24 hours of laboratory confirmation of the elevated result, by use of the "Noncompliance 24-Hour Notification Fax Report" (Form 52415) on March 25, 2010.

The Monitoring Station 031/031U TSS result for sample date March 24, 2010 was initially reported as 72 mg/l versus the daily maximum limit of 45 mg/l. Re-analysis of the sample and analysis of the duplicate sample held for sample date March 24, yielded an average of 78 mg/l. The average of the samples will be reported as the result for sample day March 24.

Investigation of the incident revealed that the cause of the high TSS was problems encountered with the East Clarifier at the Sanitary Plant. Emergency maintenance of the East Clarifier was required due to a broken drive chain. The clarifier was taken out of service during the early afternoon of March 23, 2010. The water level in the clarifier was lowered below normal levels to allow access to the drive chain. Repairs were completed at approximately 1130 hours CDT on March 24 and the clarifier returned to service. The grab TSS sample for Monitoring Station 031/031U was collected at approximately 0700 hours on March 24.

Monitoring Station 031/031U is an internal monitoring point that monitors the effluent from the Sanitary Plant prior to mixing with the treated industrial wastewater discharged from the Secondary Wastewater Treatment Plant. The comingled discharges from the Sanitary Plant and the Secondary Wastewater Treatment Plant flow



through the Terminal Polishing Lagoons. The discharge of the Terminal Polishing Lagoons is monitored at Outfall 011. The composite TSS sample for Outfall 011 was not elevated and within permitted limitations. It is also important to note that, based on the composite sample TSS result at Outfall 011, no adverse impact to water quality in the East Branch of the Little Calumet River occurred as a result of this incident.

If there are any questions concerning this matter, please contact me or Teri Kirk at (219) 787-2712.

Very truly yours,

R.A. Maciel, Manager

Environmental Management Department

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Arceloddillal Burns Harbor, LLC. Flat Cabon Siect



RETURN RECEIPT REQUESTED

Nr. Gary Starks Indiana Department of Environmental Management Indiana Covernment Center North 100 North Senate Avenue Indianapolia, Indiana 46206-8015

April 6, 2010

Subject:

Exceedance of Daily Maximum Tensperature Limitation MPDES Pennii Number 1N0000175, Outisi 001 Arceloniitisi Burne Harbor, LLC

Deer Mr. Starks:

in accordance with Part II, Section C(5) of Permit IM0000175, this is to provide a timely written report regarding an exceedance of the delily maximum two hour sustained temperature limitation that occurred at Outlet 001 on March 31, 2010. This incident was reported to IDEM on April 1, 2010, by use of the "Noncompliance 24-Hour Molification Fax Report" (Form 52415).

On March 31, 2010, the daily maximum two-hour sustained districting temperature recorded at Outfail 001 was degrees Fahrenheit. This daily maximum itemperature value exceeds the March daily maximum ilmt of 65 degrees Fahrenheit specified on Page 9 of 23 of Part I of the subject pennit for Outfail 001. The temperature exceedance began at approximately 1415 hours CDT on March 31, 2010. Temperatures returned to levels below the limit at approximately 1630 hours on March 31 for a total of 2 hours and 15 minutes above the limit.

The cause of the exceedance has not been determined. There were no known treatment issues at the Secondary Wastewater Treatment Plant. It is suspected that a combination of issues contributed to the process wastewater flows increase the retention time in the Terminal Polishing Lagoons and lagoon intelligent radiation. The reduced flows increase the retention time in the Terminal Polishing Lagoons and lagoon solar radiation. The combination of high ambient air temperatures and possible heating of the water in the isgnons due to sunight combination of high outlist temperature. Low production levels and lack of significant recent rainfall reduced the volume of non-contactwarm water contributing to the Outlist 004 discharge.

Temperature readings at Outifell OOT are taken from a sample well where water is confinuously pumped from the outifall to facilitate readings of temperature and pH. The sample pump was found to be partially plugged, which was inhibiting the flow of the water to the well. The warmth of the building and the lack of circulating air in the building could have also contributed to the elevated temperature readings.

One schon taken to miligate the exceedance was lakewater flow augmentation at Outlail 001 to raduce the femperature, I his action dis reduce the temperature, but not in time to prevent the exceedance. Additionally,

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If there are any questions concenting this matter, please contact me or Teri Kirk at (219) 787-2712.

Instrumental Management Department R.A. Maciel, Manager

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Mr. Gary Starks Indiana Department of Environmental Management Indiana Government Center North 100 North Senate Avenue Indianapolis, Indiana 46204-2251

July 19, 2010 RA/NPDES/IN

Subject

Exceedance of Daily Maximum Cyanide Effluent Limitation NPDES Permit Number IN0000175, Monitoring Station 011

ArcelorMittal Burns Harbor, LLC

Dear Mr. Starks,

In accordance with Part II, Section C(4) of the subject permit, this is to report an exceedance of the daily maximum mass discharge limitation for cyanide that occurred at Monitoring Station 011 (MS 011) on July 12, 2010. The exceedance was reported to IDEM via a Non-Compliance 24-Hour Notification Fax Report (Form 52415) which was e-mailed directly to you at approximately 1053 hours on July 14, 2010.

The measured cyanide concentration and calculated daily mass cyanide discharge at MS 011 for the July 12 monitoring period was 0.13 milligrams per liter (mg/l) and 72.79 pounds per day (lb/day) respectively. This calculated mass discharge exceeds the daily maximum mass discharge limitation of 21 lbs/day specified on Part I, Page 4 of 27, of the subject permit.

It is believed that the above exceedance is the result of a combination of several factors. First, high top temperatures inadvertently occurred at Blast Furnace 'C' on July 10. Previous investigations have demonstrated that high top temperatures at the blast furnace cause formation of ferricyanide which reports to the water in the gas cleaning system. The gas cleaning system has a blowdown to the Dirty Industrial Wastewater (DIW) sewer system, which flows to the Secondary Wastewater Treatment Plant (SWTP).

Second, the gas cleaning system blowdown flow was higher than normal because several lakewater hoses were being used to flush the gas cleaning system in preparation of the start-up of Blast Furnace "D". In addition, a 3" lakewater line ruptured during the flushing process, allowing large quantities of lakewater to flow into the gas cleaning system.



These two incidents, when combined, would have caused a significant abnormal flushing of the water from the Blast Furnace Closed Water (BFCW) circuit into the DIW system before any pretreatment systems, such as the cyanide destruct system at the BFCW Pump Station, could be instituted.

The analytical result for a subsequent sample taken for the July 13 sample period was 16.79 lbs which is below the permit limit.

In order to prevent recurrence, ArcelorMittal Burns Harbor will conduct a review of current procedures to mitigate this type of event and make revisions to the procedures where necessary.

If there are any questions concerning this matter, please contact T. E. Kirk, or me at (219) 787-2712.

Sincerely,

R. A. Maciel, Manager,

Environmental Management Department

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Mr. Gary Starks Indiana Department of Environmental Management Indiana Government Center North 100 North Senate Avenue Indianapolis, IN 46204-2251

August 27, 2010 Ref: RA/NPDES/MR

Subject:

Exceedance of 7-day Average Nitrogen-Ammonia Effluent Limitation

NPDES Permit No. IN0000175, Outfall 001

ArcelorMittal Burns Harbor, LLC.

Dear Mr. Starks.

In accordance with Part II, Section C(5) of the subject permit, this is to provide a timely written report regarding an exceedances of the 7-day average concentration discharge limitation for nitrogen-ammonia that occurred at Outfall 001 on July 08 through July 14, 2010.

The calculation of 7-day average nitrogen-ammonia concentration discharge at Outfall 001 for the period July 08 through July 14 is based on the four values: 0.26 mg/L for July 08; 0.60 mg/L for July 12; 0.67 mg/L for July 13; 0.18 mg/L for July 14. The calculated 7-day average nitrogen-ammonia concentration discharge at Outfall 001 for the period July 08 through July 14 is 0.43mg/L. This calculated concentration discharge exceeds the 7-day average concentration discharge limit of 0.36 mg/L specified in the subject NPDES permit for the month of July.

The 7-day average nitrogen-ammonia mass discharge limit specified for July was not exceeded. In addition, in the same period of the above exceedance, there were two exceedances for daily maximum nitrogen-ammonia concentration, previously reported on July 19.

The 7-day average nitrogen-ammonia concentration exceedance was a direct result of the two daily exceedances which were discussed in the previous exceedance letter dated July 19. The main reasons were a high top temperature which occurred at Blast Furnace "C" on July 10, and high gas cleaning system blowdown flow.

It is important to note that, based on the monitored pH and temperature of Outfall 001, the nitrogenammonia concentrations for Outfall 011 discharge would meet the Criterion Maximum Concentration (CMC) and the Continuous Criterion Concentration (CCC) for nitrogen-ammonia specified in 327 IAC 2-1.5-8(c)(5). These criteria are applied outside of the zone of initial dilution for a discharge to a receiving stream or Lake Michigan. Therefore, no adverse impact on the East Branch of the Little Calumet River occurred as a result of the above discharge.

In order to prevent recurrence, ArcelorMittal Burns Harbor is conducting a review of current procedures to mitigate this type of event and is making revisions to the procedures where necessary.

If there are any questions concerning this matter, please contact Teri Kirk or me at (219) 787-2712.

Very truly yours,

R. A. Maciel,

Environmental Manager

Attachments



Mr. Gary Starks Indiana Department of Environmental Management Indiana Government Center North 100 North Senate Avenue Indianapolis, Indiana 46204-2251

July 19 RA/NPDES/IN

Subject:

Exceedance of Daily Maximum Nitrogen-Ammonia Effluent Limitation

NPDES Permit Number IN0000175, Outfall 001

ArcelorMittal Burns Harbor, LLC

Dear Mr. Starks,

In accordance with Part II, Section C(5) of the subject permit, this is to report two exceedances of the daily maximum concentration discharge limitation for nitrogen-ammonia that occurred at Outfall 001 on July 12. 2010 and July 13, 2010. The exceedances were reported to IDEM via Non-Compliance 24-Hour Notification Fax Reports (Form 52415) one which was e-mailed directly to you at approximately 1053 hours on July 14, 2010 and the other faxed at approximately 1439 hours on July 15, 2010.

The measured nitrogen-ammonia concentration at Outfall 001 for the July 12 and July 13 monitoring periods were reported as 0.61 milligrams per liter (mg/l) and 0.67 mg/l, respectively. These reported concentrations exceed the daily maximum concentration discharge limitation of .51 mg/l specified in Part I, Page 2 of 27, of the subject permit. The sample from the July 12 sampling period was rerun and yielded results of 0.57 and 0.63 mg/L. These results were averaged to arrive at the reported value of 0.60 mg/L. Replicate sample results for the July 13 sample period have not yet been received, but will also be averaged. This averaging may impact the value of 0.67 mg/L reported in this letter for the July 13 sample date.

The above exceedances are the result of a combination of several factors. First, high top temperatures occurred at Blast Furnace 'C' on July 10 when the process control system controlling the feed conveyor faulted. This prevented the charging of material resulting in elevated temperatures within the furnace. High top temperatures at the blast furnace can cause the formation of ammonia, which is captured by the gas cleaning system water. The gas cleaning system has a blowdown to the Dirty Industrial Wastewater (DIW) sewer, which flows to the Secondary Wastewater Treatment Plant (SWTP).



Second, the gas cleaning system blowdown flow was higher than normal because several lakewater hoses were being used to flush the gas cleaning system in preparation of the start-up of Blast Furnace "D". In addition, a 3" lakewater line ruptured during the flushing process, allowing large quantities of lakewater to flow into the gas cleaning system.

These two incidents, when combined, would have caused a significant abnormal flushing of water with elevated ammonia concentrations from the Blast Furnace Closed Water (BFCW) circuit into the DIW system. This abnormal flushing occurred unexpectedly and before any pretreatment systems, such as the cyanide destruct at the BFCW pump station, or mitigating actions, such as lagoon bottling, could be implemented.

It is important to note that, based on the monitored pH and temperature of Outfall 001, the reported nitrogenammonia concentrations for the Outfall 001 discharge would meet the Criterion Maximum Concentration (CMC) and the Continuous Criterion Concentration (CCC) for nitrogen-ammonia specified in 327 IAC 2-1.5-8(c)(5). These criteria are applied outside of the zone of initial dilution for a discharge to a receiving stream or Lake Michigan. Therefore, no adverse impact on the East Branch of the Little Calumet River is expected as a result of the above discharge.

In order to prevent recurrence, ArcelorMittal Burns Harbor will conduct a review of current procedures to mitigate this type of event and make revisions to the procedures where necessary.

If there are any questions concerning this matter, please contact T. E. Kirk, or me at (219) 787-2712.

Sincerely,

R. A. Maciel.

Manager,

Environmental Management Department

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ArcelorMittal Burns Harbor, LLC. Flat Carbon Steel



CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Gary Starks Indiana Department of Environmental Management Indiana Government Center North 100 North Senate Avenue Indianapolis, Indiana 46206-6015

October 08, 2010 RA/NPDES/IN

Subject:

Exceedance of Daily Maximum Total Suspended Solids (TSS) Effluent Limitation

NPDES Permit Number IN0000175 and Operating Permit Number INJ060801, Monitoring

Stafion 031/031U

ArcelorMittal Burns Harbor, LLC

Dear Mr. Starks:

In accordance with Part II, Section C(4) of NPDES Permit IN0000175 and Part II, Section C(3) of Operating Permit INJ060801, this is to provide a timely written report regarding an exceedance of the daily maximum concentration limitation for TSS that occurred at Monitoring Station 031/031U for the October 01, 2010 sample period. This incident was reported to IDEM, within 24 hours of laboratory confirmation of the elevated result, by use of the "Noncompliance 24-Hour Notification Fax Report" (Form 52415) on October 05, 2010.

The Monitoring Station 031/031U TSS result for sample date October 01, 2010 was initially reported by the contract laboratory as 55 milligrams per liter (mg/L). This value exceeds the daily maximum limit of 45 mg/l. Because the initial reported result was higher than expected, re-analysis of the sample and analysis of the duplicate sample was requested. All three sample results yielded an average of 53 mg/L, which will be reported as the result for sample day October 1, 2010.

Investigation of the incident revealed that the low pressure air blower intakes partially plugged over a period of several days, causing reduced air flow to and, subsequently, agitation in, the aeration basins. As a result of the reduced agitation, sludge settled in the aeration tanks and did not move through to the - secondary clarifiers. When the aeration problem was resolved on October 1, 2010, the increased air flow caused settled solids in the aeration tank to be suspended and flow to the clariflers. This overloaded the clarifiers and allowed higher than normal solids carryover into the effluent.



Upon notification of the exceedance, operations drained sludge to the digester to return the plant to stable operation. Subsequent TSS results confirm that the system was returned to normal conditions.

Monitoring Station 031/031U is an internal monitoring point that monitors the effluent from the Sanitary Plant prior to mixing with the treated industrial wastewater discharged from the Secondary Wastewater Treatment Plant. The comingled discharges from the Sanitary Plant and the Secondary Wastewater Treatment Plant flow through the Terminal Polishing Lagoons. Due to the large retention period within the lagoons, it is expected that additional settling of suspended solids would occur and no adverse impact to water quality in the East Branch of the Little Calumet River occurred as a result of this incident.

If there are any questions concerning this matter, please contact me or Teri Kirk at (219) 787-2712.

R.A. Maciel, Manager

Environmental Management Department



Mr. Gary Starks Indiana Department of Environmental Management Indiana Government Center North 100 North Senate Avenue Indianapolis, IN 46204-2251

January 28, 2011 Ref: RA/NPDES/MR

Subject:

Exceedance of Monthly Average Total Suspended Solids Effluent Limitation

NPDES Permit No. IN0000175, Outfall 011

ArcelorMittal Burns Harbor, LLC.

Dear Mr. Starks,

In accordance with Part II, Section C(5) of NPDES Permit IN0000175, this is to provide a timely written report regarding an exceedance of the monthly average mass discharge limitation for total suspended solids (TSS) that occurred at Monitoring Station (MS) 011 in December 2010.

The calculated monthly average mass TSS discharge at MSO11 for December was 6980 pounds per day (lbs/day). This value exceeds the limit of 6000 lbs/day specified in Part I, Page 4 of 27 of the subject permit.

The monthly average TSS mass exceedance is a direct result of three unusually high daily values of TSS sampling results. The first was the December 16 24-hour composite sampling result of 20 milligrams per liter (mg/l), which calculated to be a mass discharge of 12,017 lbs per day. At the time, it was believed that the winter storms that occurred over the period of December 10-13 contributed to the elevated TSS result in that large amounts of very light silt were brought in through the intake. Several operating facilities were down for maintenance which lowered the overall flow to the treatment plant during and immediately after the storm events. Once operations resumed, the increased flow flushed the lighter solids into the treatment plant. This flushing effect coupled with the water supply lines containing a higher than normal solids level was believed to be the cause of the elevated TSS result on December 16. Subsequent MS 011 samples showed a decrease in the solids loading and it was believed that this incident was a one-time event requiring no further action.



Two additional elevated TSS concentrations were experienced at MS 011 for the sampling periods of December 28 and 30. The sample results were 26mg/l and 20 mg/L, respectively. Based on the measured flows on these dates, the calculated TSS mass discharge at MS 011 on December 28 and 30 is 14,841 lbs/day and 13,068 lbs/day, respectively. These two elevated sample results were obtained directly after the winter storms experienced on December 25 and 26 that again caused plant-wide water supply issues because of the high solids content of the lake water being supplied to the operating facilities. That coupled with the start up of operating facilities that were down for the holidays may have washed additional silt into the treatment plant. If these last two sampling results for the month were ignored, the facility would be in compliance with the monthly average mass discharge limit for TSS.

Burns Harbor uses a coagulant (Nalco 7763) for solids treatment at the Secondary Wastewater Treatment Plant (SWTP). After increasing the feed rate of this product in an attempt to mitigate the continuing solids issue experienced as a result of these winter storms, it has been determined that this product is not effective in the removal of the light colloidal solids found in the SWTP during the December events. Investigations have been made into additional chemicals which will assist in the removal of these types of solids. A written request has been sent to IDEM for an additional water treatment additive and this product will be utilized once approval is received.

In addition to the request for approval to use an additional water treatment additive at the SWTP, Burns Harbor continues to investigate the potential causes of these incidents and any additional corrective actions that can be implemented to prevent recurrence. If significant modifications or alterations to the on-site treatment systems are necessary, the agency will be so notified. If there are any questions concerning this matter, please contact Teri Kirk at (219) 787-4643.

Very truly yours.

R. A. Maciel,

Environmental Manager



Mr. Gary Starks Indiana Department of Environmental Management (IDEM) Indiana Government Center North 100 North Senate Avenue Indianapolis, IN. 46204-2251

February 28, 2011 Ref: RA/NPDES/MR

Subject:

Exceedance of Monthly Average Total Suspended Solids Effluent Limitation

NPDES Permit No. IN0000175, Outfall 011

ArcelorMittal Burns Harbor, LLC.

Dear Mr. Starks,

In accordance with Part II, Section C(5) of NPDES Permit IN0000175, this is to provide a timely written report regarding an exceedance of the monthly average mass discharge limitation for total suspended solids (TSS) that occurred at Monitoring Station (MS) 011 in January 2011.

The calculated monthly average mass TSS discharge at MSO11 for December was 7455 pounds per day (lbs/day). This value exceeds the limit of 6000 lbs/day specified in Part I, Page 4 of 27 of the subject permit.

The monthly average TSS mass exceedance is a continuation of the issues experienced in December with elevated concentrations of colloidal solids in the intake water from Lake Michigan. There were three occurrences of high TSS at MSO11. For the January 3rd and 4th sampling periods the sample results were 20 milligrams per liter (mg/l) each day. Based on the measured flows for these dates, the calculated TSS mass Discharge at MSO11 for each day was 12,451 and 12,017 lbs/day respectively. For the January 16th sampling period the sample results were 17 mg/l. Based on the measured flow for this date, the calculated TSS mass discharge at MS011 for that day was 10,668 lbs/day.

Lakewater TSS and turbidity remained high through the 20th of January contributing to higher than normal TSS values at MSO11 throughout the month. It has been discovered that a large amount of sand and silt has deposited near the inlet of the intake structure. This sand and silt appears to wash into the intake when winds cause sufficient disturbance of the near-shore lake bottom.



As a result of the December exceedance, Burns Harbor conducted testing to locate additional commercially available chemicals to aid in the removal of the colloidal solids. Once an appropriate chemical was identified, approval for its use had to be obtained from IDEM. A request to use ChemTreat P8905L, a coagulant, was submitted to IDEM on January 26, 2011. Once IDEM approval was received, Burns Harbor began applying this wastewater treatment chemical and no instances of high TSS at MSO11 have been experienced since. However, the length of time required to identify an appropriate wastewater treatment chemical and obtain approval for its use was such that the January exceedance could not be avoided.

Burns Harbor continues to investigate potential causes of these incidents and additional corrective actions that can be implemented to prevent recurrence. If significant modifications or alterations to the on-site treatment systems are necessary, the agency will be so notified. If there are any questions concerning this matter, please contact Teri Kirk at (219) 787-4643.

Very truly yours,

R. A. Maciel,

Environmental Manager

Attachments



Mr. Gary Starks Indiana Department of Environmental Management Indiana Government Center North 100 North Senate Avenue Indianapolis, IN 46204-2251

April 20, 2011 Ref. RA/NPDES/MR

Subject:

Exceedance of Daily Maximum Fecal Coliform Limitation

Operational Permit No. INJ060801, Outfall 031

ArcelorMittal Burns Harbor, LLC.

Dear Mr. Starks.

In accordance with Part II, Section C(4) of Operational Permit INJ060801, this is to provide a timely written report regarding an exceedance of the daily maximum fecal coliform limitation that occurred at Outfall 031 on April 6, 2011. This incident was reported to IDEM, within 24 hours of laboratory confirmation of the result, by use of the "Noncompliance 24-Hour Notification Fax Report (Form 52415) on April 15, 2011.

The Outfall 031 fecal coliform result for April 6, 2011 was reported as Too Numerous to Count (TNTC) on April 14, 2011. This result exceeds the 400 colonies per 100 milliliters (col/100 ml) daily maximum permit limitation. The result was reported to ArcelorMittal Burns Harbor after the contract laboratory had reviewed all of the QA/QC data to validate that there was no equipment contamination or cross contamination of the samples. The lab had contacted the facility on April 7 and indicated that the results for April 6 were unusable due to suspected contamination of all of the fecal coliform samples analyzed on that date and had requested an additional sample. The additional sample was provided on April 7 and yielded a result of less than 1 col/100 ml.

The exceedance was caused by the lack of chlorine feed to the sanitary plant from approximately 0740 hours to 1730 hours on April 6. The chlorination system uses lakewater as a carrier to introduce gaseous chlorine into the sanitary plant chlorination chamber. The lakewater supply line developed a leak and flooded the basement of the treatment plant, which required the isolation of the lake water system to locate and repair the leak. The potable water back up feed valve to switch the chlorination system to potable water could not be reached, as it was under several feet of water. Pumps were placed to dewater the basement. Once the water level in the basement was low enough to safely reach the potable water feed valve, the chlorination system was placed back in service.



Additional measures to prevent recurrence, including the feasibility of relocating the potable water back up feed valve, are under investigation.

If there are any questions concerning this matter, please contact Teri Kirk at (219) 787-4643.

Very truly yours,

R. A. Maciel,

Environmental Manager